

4212

Diag. Cht. No. 1272-Z

4212

Form 504
DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
State: <i>La. & Miss.</i>
11-5513
DESCRIPTIVE REPORT.
<i>Hyd.</i> Sheet No. <i>4212</i>
LOCALITY:
<i>Gulf of Mexico</i>
<i>East of Chandeleur</i>
<i>Islands</i>
19 <i>28</i>
CHIEF OF PARTY:
<i>Colman R. Hand</i>

DESCRIPTIVE REPORT TO ACCOMPANY

HYDROGRAPHIC SHEET NO. 1

GULF OF MEXICO

OFF CHANDELEUR ISLANDS

GULF OF MEXICO

STEAMER BACHE

ROLINE R. HAND, H. & G. ENGINEER, CHIEF OF PARTY

1921 — 1922

DESCRIPTIVE REPORT TO ACCOMPANY
HYDROGRAPHIC SHEET NO. 1
VICINITY OF CHANDELEUR ISLANDS.

LIMITS.

Hydrographic sheet extends from its junction with sheet No. 2 on the south, latitude 29-25, to latitude 29-57 on the north. It extends offshore from the three fathom curve to a junction on the east limit with work of previous seasons.

The scale is 1:80,000.

CONTROL AND METHOD.

Very good control was furnished by a system of triangulation stations extending the length of the Chandeleur Islands. These were supplemented by sufficient topographic stations and one hydrographic station.

Buoys were planted near the limit of visibility of the shore signals. These were the single barrel and screen banner type. They were located by cuts and fixes from the shore signal.

Lines were run a quarter of a mile apart out to the limit of the fixed position work. From here to the twenty fathom curve they were two miles apart. Beyond the twenty fathom curve to the limit of the sheet they were run four miles apart.

The usual method of sounding using sextant three-point fixes was followed: a hand lead was used to about fifteen fathoms. Beyond this depth to twenty five fathoms the trolley rig was used. The new leadline with copper core was used and found very satisfactory on the trolley; its particular virtue being that leadline corrections were eliminated. After twenty five fathoms were reached the electric sounding machine was used and the ship stopped at each sounding.

CHARACTER OF BOTTOM.

The bottom is in general very regular, and no suspicious soundings requiring closer development were found.

WEATHER.

The weather was very unfavorable thruout the season until the last two weeks, much of this was due to a haze that made seeing more than five miles offshore an impossibility. After a strong northwest wind there was about a day of clear weather with good seeing. These days occurred about once a week.

CONDITION OF THE WORK.

A section off the southern end of the island was not completed. All data concerning this area was given to the Steamer Hydrographer.

Respectfully forwarded,

Eoline R. Hand, H. & G. E.

Eoline R. Hand

Respectfully submitted,

L. O. Stewart, H. & G. E.

L. O. Stewart

STATISTICS FOR SHEET# 1

DATE	LETTER	VOLUME	POSITIONS	SOUNDINGS	MILES STATUTE	VESSEL
12-29-21	A	1	76	455	15.7	Ship
12-30-21	B	1	64	432	20.1	"
1- 3-22	C	1	55	411	22.0	"
1- 5-22	D	1	30	218	12.0	"
1-10-22	E	2	32	157	12.3	"
1-11-22	F	2	29	145	10.3	"
1-12-22	G	2	23	140	10.1	"
1-13-22	H	2	111	649	41.7	"
1-14-22	J	2	55	325	23.4	"
1-24-22	K	3	17	107	5.7	"
1-27-22	L	3	36	443	23.7	"
1-28-22	M	3	51	443	15.1	"
2- 2-22	N	3	12	115	4.5	"
2- 3-22	P	3	55	423	31.0	"
2- 4-22	Q	4	11	132	5.5	"
2- 8-22	R	4	93	360	27.5	"
2-10-22	S	4	76	294	25.2	"
4- 5-22	T	4	23	35	16.0	"
4- 8-22	U	4	41	171	14.7	"
4-12-22	V	4	54	173	13.0	"
4-12-22	V	5	25	141	12.9	"
4-20-22	W	5	135	491	52.9	"
4-21-22	X	5	125	439	49.5	"
4-22-22	Y	5	10	33	3.2	"
TOTAL			1290	6825	469.0	

STATISTICS FOR P.D.R. SHEET # 1

1922	LETTER	VOLUME	POSITIONS	SOUNDINGS	MILES STATUTE	VESSEL
Feb. 8	A	1	3	189	23.2	Ship
Apr. 6	B	1	8	255	35.0	"
Apr. 7	C	1	12	293	41.4	"
Apr. 25 & 26	D	1	12	430	65.3	"
May 26	E	2	10	507	14.5	"
Apr. 1	G	2	3	371	45.0	"
Apr. 29 & 30	E	2	15	332	12.0	"
TOTALS			71	2113	246.9	

Plane of reference, M. L. W., is 1.8 on staff.

Report on the Verification & Inking of Hyd. Sheet No. 4212.

The major portion was inked and verified by A. Zaer and the undersigned completed ^{remainder} the from a part of C day P.D.R.* to the end of the P.D.R. work.

"D" and "E" days were entirely checked the dead-reckoning and intermediate positions being very accurately plotted. The remainder of the P.D.R. positions were not checked but the spacing of intermediate positions was verified.

The work and records covered by this report were well done and the field drafting was excellent.

Frank M. Albert,
Draftsman, Section of Field Records.

Aug 29, 1922.

* P.D.R. = Precise Dead-Reckoning.

Supplemental report on Verifying & Inking the
Precise Lead Reckoning Lines on H 4212.

After this sheet had been verified and inked and had come up for review it was found that several differences existed as follows:

1. A different log factor was used from that of a similar sheet (4214).

2. Correct corrections for leeway were not made.

3. More accurate current diagrams by the division of tides showed small differences from field values.

A replotting and rechecking of the lines using this new data (see office abstract L.A. No. 85884) showed differences as mentioned above.

But these differences, usually less than a mile at the offshore end of the line, were not of sufficient magnitude to warrant replotting since in this area soundings do not differ greatly for miles apart, in most cases.

In addition there was some doubt as to the right of using a different log factor. Therefore, the lines on the sheet are plotted from the data on original field abstract (L.A. No. 85884).

As soundings 5F to 8F did not check surrounding work they were rejected as being much too deep.

Frank M. Albert
Draftsman, Field Records Section

March 6, 1924.

July 19, 1922.

Division of Hydrography and Topography:

Division of Charts:

Tide reducers are approved in
7 volumes of sounding records for

HYDROGRAPHIC SHEET 4212

Locality: Chandeleur Islands, La.

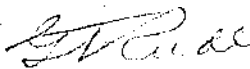
Chief of Party: E. R. Hand in 1922.

Plane of reference is mean low water, reading
1.8 ft. on tide staff at Wharf, Chandeleur Light House

For reduction of soundings,

Condition of records satisfactory except as checked below:

1. Locality and sublocality of survey omitted.
2. Month and day of month omitted.
3. Time meridian not given at beginning of day's work.
4. Time (whether A.M. or P.M.) not given at beginning of day's work.
5. Soundings (whether in feet or fathoms) not clearly shown in record.
6. Leadline correction entered in wrong column.
7. Field reductions entered in "Office" column.
8. Location of tide gauge not given at beginning of each day's work.
9. Leadline corrections not clearly stated.
10. Kind of sounding tube used not stated.
11. Sounding tube No. entered in column of "Soundings" instead of "Remarks".
12. Legibility of record could be improved.
13. Remarks.



Chief, Division of Tides and Currents.

COPY TO FIELD RECORDS.

Nov. 12, 1923.

Division of Hydrography and Topography:

Division of Charts:

~~Current diagrams are forwarded for~~
~~the Admiralty and approved in~~

3 volumes of sounding records for

HYDROGRAPHIC SHEET 4212 (Dead reckoning)

Locality: Off Channel Islands, Gulf of Mexico

Chief of Party: E. R. Hand in 1922

~~Plane of reference is~~

~~ft. on tide staff at~~

For reduction of soundings, condition of records satisfactory
except as checked below:

1. Locality and sublocality of survey omitted.
2. Month and day of month omitted.
3. Time meridian not given at beginning of day's work.
4. Time (whether A.M. or P.M.) not given at beginning of day's work.
5. Soundings (whether in feet or fathoms) not clearly shown in record.
6. Leadline correction entered in wrong column.
7. Field reductions entered in "Office" column.
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9. Leadline corrections not clearly stated.
10. Kind of sounding tube used not stated.
11. Sounding tube No. entered in column of "Soundings" instead of "Remarks".
12. Legibility of record could be improved.
13. Remarks.



Chief, Division of Tides and Currents.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
WASHINGTON

March 20, 1924.

SECTION OF FIELD RECORDS

Report on Hydrographic Sheet No. 4212

East of Chandeleur Islands, Louisiana.

Surveyed in 1921 - 1922.

Instructions to Steamer RANGER dated Nov. 20, 1919.

Instructions to Steamer HYDROGRAPHER dated Jan. 19, 1921.

Instructions to Steamer BACHE dated Nov. 8, 1921.

Chief of Party, E. R. Hand.

Surveyed by party of St. Bache.

Protracted and soundings plotted by G.H. Everett.

Verified and inked by A. Baer and F. M. Albert.

1. The sounding records and descriptive report conform to the requirements of the General Instructions. The dead reckoning abstract is subject to the following criticisms:

Leeway generally ignored.

Method of ascertaining strength and velocity of current from graph is not in accordance with present practice, which assumes that ocean tidal currents are rotary - not oscillating.

Log loss factors are incorrect.

2. The plan and character of development fulfill the requirements of the General Instructions.
3. The plan and extent of development satisfy the specific instructions.
4. In that portion of the work that is based on 3-point fixes the crossings are adequate and the information is sufficient for drawing the curves.

About one-third of the dead reckoning lines extend over the area covered by H. 4223. A comparison of the two shows that at the inner edge of the dead reckoning lines, which are well fixed, the two surveys agree fairly well, but at the outer edge of the overlapping areas the work of E day is uniformly too deep, indicating that the positions should be further offshore than shown. A comparison of E day with H. 4214 and the outer ends of D and E day with H. 4134 also indicate that the outer ends of these two days' work should have been 4 or 5 miles further offshore.

It is believed that astronomical fixes at the ends of dead reckoning lines, when conditions are favorable, would be a valuable aid in eliminating gross errors.

5. H. 4223 should be the sole authority throughout the area covered by it. That portion of H. 4212 that duplicates H. 4223 should be omitted.
6. No further surveying is required within the area covered by the sheet, but the indications of defective location of the dead reckoning lines suggest the need of checking them when opportunity affords.
7. The junction with the adjoining work on the north is excellent.
8. The defects noted in paragraph 1 were eliminated as far as possible from the dead reckoning abstracts and the lines re-plotted on tracing paper. A comparison of these revised lines with those submitted by the field party did not show sufficient difference to require any changes.
9. The character and scope of the 3-point fix work is excellent while the dead reckoning work is only fair. The field drafting is excellent.
10. Reviewed by E. P. Ellis, March, 1924.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

The finished Hydrographic Sheet is to be accompanied by the following title sheet, filled in as completely as possible, when the sheet is forwarded to the Office.

U. S. Coast and Geodetic Survey.

Register No. 4212

State . . . Louisiana and Mississippi

General locality . Gulf of Mexico

Locality . . . East of Chandeleur Islands

Chief of party . . Soline R. Hand, Hyd. & Geod. Eng.

Surveyed by . . . Steamer Satche, Soline R. Hand, Commanding

Date of survey . . December 1921 to May 1922

Scale . . . 1:80,000

Soundings in . . . Feet

Plane of reference . Mean low water

Protracted by G. H. Everett Soundings in pencil by G. H. E.

Inked by Verified by

Records accompanying sheet (check those forwarded):

Des. report, 5 Tide books, ✓ Marigrams, 1 Boat sheets,

2 Sounding books, ✓ Wire-drag books, ✓ Photographs.

Data from other sources affecting sheet . . . P. D. R. Abstracts

1 current book and curves

Book retained for use on Sheet 2.

Remarks:

List of statistics

Applied to new chart 11366 John Pierce 10-30-91